

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 4, 10 and 13, and ADD new claims 19-25 in accordance with the following:

1-3. (Cancelled)

4. (Currently Amended) A composition used for preparation of a color development system comprising a dispersion in which a component (a) comprising at least one urea-urethane compound having one or more urea groups and one or more urethane groups in the same molecule, and a coloring inhibitor component (b), which is at least one compound selected from a silicate, a carbonate, a sulfate, a phosphate, a metal oxide, a metal hydroxide, a hindered phenol compound, a hindered amine compound, and an acetoacetic acid derivative are dispersed in a liquid medium

wherein the dispersion at least one of the component (a) and component (b) ~~has been~~ subjected to heat treatment at a temperature of 40° C to 90° C.

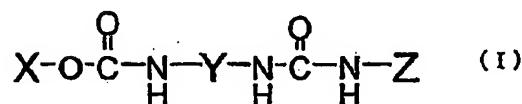
wherein a white portion of the thermal recording paper formed by using a dye precursor and using the dispersion as a developer exhibits a variation of whiteness (Δw) of 10 or less measured according to Japanese Industrial Standard Z8722 before and after a humidity test, and/or a sample of the dispersion containing 5% of a dye precursor, 10% of a developer and 1% of a color inhibitor exhibits a variation of whiteness (Δw) of 10 or less measured according to Japanese Industrial Standard Z8722 before and after an acceleration test;

wherein in the humidity test, the thermal recording paper is subjected to 40° C and 90% relative humidity for 24 hours; and

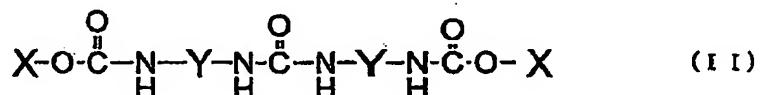
wherein in the acceleration test, the sample is treated at 40° C for 3 hours to accelerate the coloring phenomenon.

5. (Cancelled)

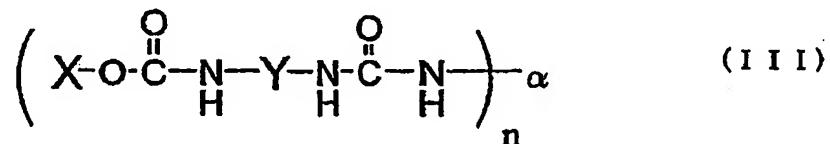
6. (Original) The composition according to Claim 4, wherein the component (a) urea-urethane compound is at least one compound represented by the following formulas (I) to (VI):



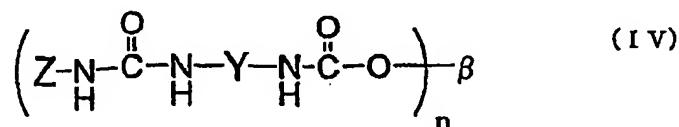
wherein each of X, Y, and Z represents an aromatic compound residue, a heterocyclic compound residue, or an aliphatic compound residue, and each residue may have a substituent;



wherein each of X and Y represents an aromatic compound residue, a heterocyclic compound residue, or an aliphatic compound residue, and each residue may have a substituent;

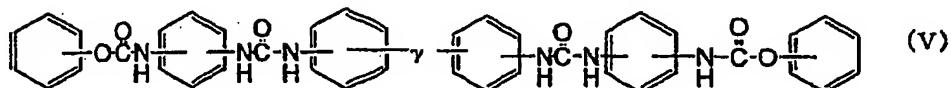


wherein each of X and Y represents an aromatic compound residue, a heterocyclic compound residue, or an aliphatic compound residue, α represents a residue having a valence of 2 or greater, n represents an integer of 2 or greater, and each residue may have a substituent;

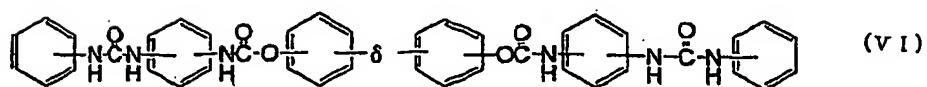
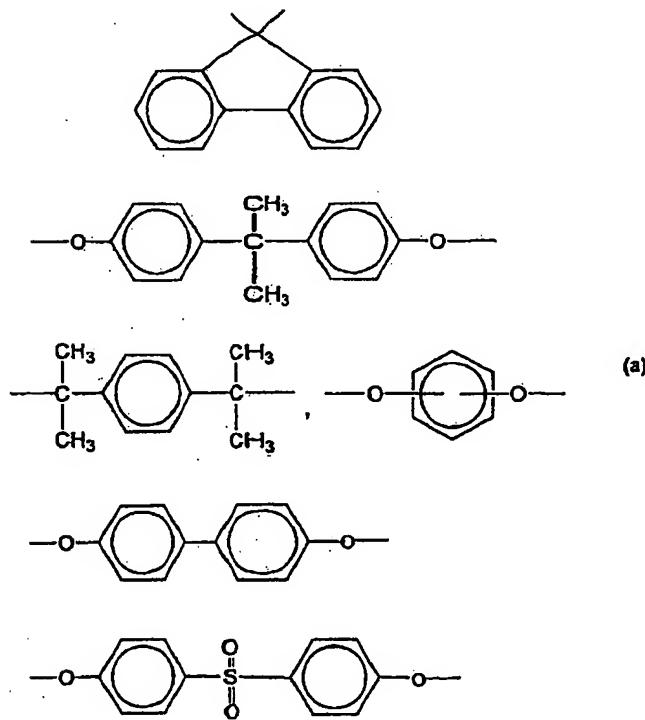


wherein Z and Y represent an aromatic compound residue, a heterocyclic compound residue, or an aliphatic compound residue, β represents a residue having a valence of 2 or

greater, n represents an integer of 2 or greater, and each residue may have a substituent;



wherein a hydrogen atom on a benzene ring may be substituted with an aromatic compound residue, a heterocyclic compound residue, or an aliphatic compound residue, each residue may have a substituent, γ represents any of $-SO_2-$, $-O-$, $-(S)_n-$, $-(CH_2)_n-$, $-CO-$, $-CONH-$, a compound of any of the following formulas (a), or a direct bond, and n is 1 or 2; and



wherein a hydrogen atom on a benzene ring may be substituted with an aromatic compound residue, a heterocyclic compound residue, or an aliphatic compound residue, each residue may have a substituent; δ represents any of $-\text{SO}_2-$, $-\text{O}-$, $-(\text{S})_n-$, $-(\text{CH}_2)_n-$, $-\text{CO}-$, $-\text{CONH}-$, $-\text{NH}-$, $-\text{CH}(\text{COOR}_1)-$, $-\text{C}(\text{CF}_3)_2-$, $-\text{CR}_2\text{R}_3-$ or a direct bond, R_1 , R_2 , and R_3 represent an alkyl group having 1 to 20 carbon atoms, and n is 1 or 2.

7. (Previously Presented) The composition according to claim 4, wherein the component (b) coloring inhibitor is at least one member selected from magnesium silicate, calcium silicate, magnesium carbonate, calcium carbonate, calcium sulfate, magnesium phosphate, 2,2'-methylenebis(4,6-di-t-butylphenyl)sodium phosphate, magnesium oxide, aluminum oxide, titanium oxide, magnesium hydroxide, 1,1,3-tris(2-methyl-4-hydroxy-5-cyclohexylphenyl)butane, 1,1,3-tris(2-methyl-4-hydroxy-5-t-butylphenyl)butane, tris(2,6-dimethyl-4-t-butyl-3-hydroxybenzyl)isocyanurate, acetoacetic acid anilide, and acetoacetic acid m-xylidide.

8. (Previously Amended) The composition according to claim 4, further comprising an acidic developer component (c) which is at least one compound selected from a phenol derivative, an aromatic carboxylic acid derivative or a metal salt compound thereof, a salicylic acid derivative or a metal salt compound thereof, an N,N-diarylthiourea derivative, and a sulfonylurea derivative.

9. (Original) The composition according to Claim 8, wherein the phenol derivative of the acidic developer component (c) is at least one member selected from 2,2-bis(4-hydroxyphenyl)propane, bis(4-hydroxyphenyl) sulfone, 4-isopropoxyphenyl-4'-hydroxyphenylsulfone, 2,4'-dihydroxydiphenylsulfone, bis(3-allyl-4-hydroxyphenyl) sulfone, and benzyl 4-hydroxybenzoate.

10. (Currently Amended) The composition according to claim 4, wherein the dispersion of the component (a) is subjected to heat treatment at a temperature 40 °C to 90 °C after grinding the dispersion of the component (a) so as to have particle size from 0.1 μm or greater to 10 μm or less. the heat treatment has been carried out at a temperature of 40 °C to 90 °C for 3 hours or more.

11. (Cancelled)

12. (Previously Presented) The composition according to claim 4, wherein both of component (a) and component (b) have been subjected to heat treatment at a temperature of 40° C to 90° C for 3 hours or more.

13. (Currently Amended) The composition according to claim 4, used for preparation of a color development system comprising a dispersion in which a component (a) comprising at least one urea-urethane compound having one or more urea groups and one or more urethane groups in the same molecule, and a coloring inhibitor component (b), which is at least one compound selected from a silicate, a carbonate, a sulfate, a phosphate, a metal oxide, a metal hydroxide, a hindered phenol compound, a hindered amine compound, and an acetoacetic acid derivative are dispersed in a liquid medium,

wherein the content of the coloring inhibitor component (b) is 1 part by mass or more and less than 50 parts by mass per 100 parts by mass of the urea-urethane compound component (a),

wherein a white portion of a thermal recording paper formed by using a dye precursor and using the dispersion as a developer exhibits a variation of whiteness (Δw) of 15 or less measured according to Japanese Industrial Standard Z8722 before and after a humidity test, and/or a sample of the dispersion containing 5% of a dye precursor, 10% of a developer and 1% of a color inhibitor exhibits a variation of whiteness (Δw) of 15 or less measured according to Japanese Industrial Standard Z8722 before and after an acceleration test;

wherein in the humidity test, the thermal recording paper is subjected to 40 °C and 90% relative humidity for 24 hours; and

wherein in the acceleration test, the sample is treated at 40 °C for 3 hours to accelerate the coloring phenomenon.

14. (Previously Presented) The composition according to claim 4, wherein the urea-urethane compound component (a) and/or the coloring inhibitor component (b) are dispersed using at least one dispersant selected from the group consisting of a nonionic water-soluble polymer compound, an anionic water-soluble polymer compound, an anionic surfactant, a nonionic surfactant and an amphoteric surfactant.

15. (Original) The composition according to Claim 14, wherein the urea-urethane compound component (a) and/or the coloring inhibitor component (b) are dispersed using at least one dispersant selected from the group consisting of a nonionic or anionic water-soluble

polymer compound selected from a polyvinyl alcohol derivative and a cellulose derivative, and an anionic surfactant.

16. (Original) The composition according to Claim 15, wherein the polyvinyl alcohol derivative is sulfonic acid-modified polyvinyl alcohol, the cellulose derivative is hydroxypropylmethyl cellulose and the anionic surfactant is at least one member selected from a metal salt of β naphthalenesulfonic acid formalin condensate and a polycarboxylic acid derivative surfactant.

17. (Original) A recording material comprising a color development layer containing a composition according to claim 4 arranged on a substrate.

18. (Original) The recording material according to Claim 17, wherein the recording material is a thermal recording material.

19. (New) The composition according to claim 13, wherein the dispersion of component (b) is subjected to heat treatment at a temperature 40° C to 90° C, and the dispersion of the component (a) is optionally subjected to heat treatment at a temperature 40° C to 90° C.

20. (New) The composition according to claim 13 wherein the dispersion of component (a) is subjected to heat treatment at a temperature 40° C to 90° C after grinding the dispersion of component (a) so as to have particle size from 0.1 μ m or greater to 10 μ m or less.

21. (New) A method of forming a composition used for preparation of a color development system, comprising:

providing a component (a) comprising at least one urea-urethane compound having one or more urea groups and one or more urethane groups in the same molecule;

providing a coloring inhibitor component (b), which is at least one compound selected from a silicate, a carbonate, a sulfate, a phosphate, a metal oxide, a metal hydroxide, a hindered phenol compound, a hindered amine compound and a acetoacetic acid derivative;

dispersing the component (a) in a liquid medium to form a dispersion;

dispersing the component (b) in the dispersion so that the content of the coloring inhibitor component (b) can be 1 part by mass or more and less than 50 parts by mass per 100 parts by

mass of the urea-urethane compound component (a) as a solid basis; and
subjecting the dispersion to heat treatment at a temperature of 40 °C to 90 °C.

22. (New) A recording material comprising a color development layer containing a composition according to claim 13 arranged on a substrate.

23. (New) The recording material according to Claim 22, wherein the recording material is a thermal recording material.

24. (New) A recording material comprising a color development layer containing a composition according to claim 21 arranged on a substrate.

25. (New) The recording material according to Claim 24, wherein the recording material is a thermal recording material.